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CHRONICLE OF THE WORLD HEALTH ORGANIZATION

TUBERCULOSIS IN INDIA

EXAMINATION OF NEW HABIT-FORMING DRUGS

VENEREAL-DISEASE CONTROL IN POLAND

PRESENT STATE OF POPULATION GROWTH

EPIDEMIOLOGICAL RADIO-BROADCASTS FROM GENEVA

WORLD HEALTH ORGANIZATION

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GENEVA

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Note. — The *Chronicle of the World Health Organization* is published monthly in English, French, Russian, Spanish and Chinese. The *Chronicle* reports the activities of the Organization, without, however, claiming to be an authoritative record of its official views, which are set out in the *Official Records of the World Health Organization*. All correspondence relating to it should be addressed to the World Health Organization, Palais des Nations, Geneva. Those who may wish to reproduce the text of the *Chronicle* or extracts therefrom, more especially in the medical Press, are entirely at liberty to do so.

VOL. 3, No. 2 FEBRUARY 1949

CHRONICLE OF THE WORLD HEALTH ORGANIZATION

TUBERCULOSIS IN INDIA

The report of the Bhor Committee revealed that about 500,000 people die annually from tuberculosis in India. This means that the annual number of cases is approximately two and a half to three million out of a population of 320 million.

The main reasons for this high morbidity-rate are threefold: bad housing, lack of sanitation, and malnutrition. Because of a very large population, the housing situation in India is far from satisfactory; two or three families, sometimes comprising as many as ten people, have, in many cases, to share one room. Added to the lack of sanitation, and the food shortage, which is such that many people are living on the verge of starvation, this creates a situation in which the danger of infection is obvious.

There are, further, constant movements of the population between the towns and rural areas: the village people come into the towns for the markets, while the city people make frequent visits to their native villages. This natural tendency has been accentuated by the growth of new industries, which have attracted to the towns large masses of people, most of whom are very poor.

The situation is in general slightly worse in the towns owing to greater overcrowding, but sanitation and nutrition are equally bad in the country, and the danger of infection is increased by the interchange of population between town and country.

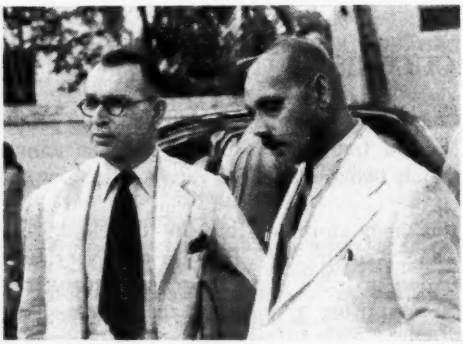
It is obvious that no quick solution will be possible for the problems resulting from the constant movement of population and from the industrialization of the country. Both these factors will continue for a long time to confront the health authorities with increasing difficulties. It will take time and colossal sums to improve the sanitation, the housing conditions and the food situation.

It is, however, equally clear that tuberculosis causes untold suffering and serious economic loss in India, and that there is urgent need for action of some kind.

Possible Measures of Control

The question is : what measures are possible? Hospital accommodation is quite inadequate. For the treatment of tuberculosis, 500,000 hospital beds would be needed, but at present only 7,000 are available. Attempts are being made all over the country to increase the number of sanatorium beds, but at an optimistic estimate only 30,000 beds could be added within the next few years to the number at present available.

FIG. 1. ALL-INDIA BCG CAMPAIGN - I



Left : Dr. C. Mani, Deputy Director-General of Health Services, India, now Director of WHO Regional Office for South-East Asia; right : Dr. K. C. K. E. Raja, Director-General of Health Services, India

In view of this situation, the authorities have turned their attention to prevention of the disease by BCG vaccination, in the hope of reducing the problem, within a number of years, to such proportions as to bring its control more within the financial possibilities of the country.

There were, nevertheless, great difficulties in the way of a BCG vaccination campaign in India. The first requirement was tuberculin for large-scale tests; this was not available in India and would have to be imported. Secondly, there was no institute in Asia capable of producing BCG vaccine. Thirdly, there was no trained personnel in India.

Technical Assistance by WHO

To overcome the difficulties, the Government of India requested aid from WHO, and in response to this, Dr. W. Gellner and Dr. P. Lind were sent to India to set up a BCG laboratory and to demonstrate BCG vaccination on a mass scale.

The first discussions took place with the Central Government and with Dr. P. V. Benjamin, tuberculosis adviser to the Government of India. Throughout his stay of seven months Dr. Gellner worked in close collaboration with Dr. Benjamin.

During the month of June 1948, the two experts visited a number of cities — Madras, Bombay, Calcutta, Delhi, and Baroda — to contact the provincial health authorities and to discuss plans with them. They met with great interest and co-operation everywhere. Local committees were

immediately formed to work out the details, always in consultation with Dr. Gellner and Dr. Benjamin. Financial difficulties seemed to stand in the way of an early implementation of those plans; they were, however, overcome by the readiness of the Central Government to contribute half the cost of the campaigns in the different provinces.

FIG. 2. ALL-INDIA BCG CAMPAIGN - II

Centre : Rajkumari Amrit Kaur, Minister of Health, India; back, left : Dr. K. C. K. E. Raja; back, right : Dr. C. Mani; right : Dr. P. V. Benjamin

The preparatory work for the establishment of the BCG laboratory actually began several months before the departure of the WHO experts for India. Acting on the assumption that it might be difficult to procure the necessary instruments, materials etc., in India, they proposed to the government that all the equipment should be purchased in Europe with the object not only of saving time in setting up the laboratory, but also of employing only such equipment as had proved its usefulness in BCG laboratories in Europe, especially in the State Serum Institute, Copenhagen. When the Government of India had agreed to the proposal, all the many articles of equipment — from incubators and analytical scales to filter-paper, ampoules, boxes and labels — were purchased and shipped to India. This operation was so well timed that the shipments landed in India very shortly after Dr. Gellner's and Dr. Lind's arrival there, which made it possible to set up the laboratory in the King Institute at Guindy, Madras, in the

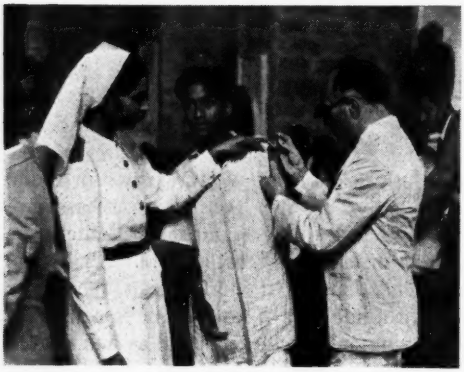
FIG. 3. ALL-INDIA BCG CAMPAIGN - III

Dr. P. Lind, WHO expert, giving a BCG vaccination

record time of a few weeks. Production of the vaccine actually started about the middle of July and the first Indian BCG vaccine was available on 17 August 1948.

Sir Sahib Singh Sokhey, director of the Haffkine Institute, Bombay, and a member of the WHO Expert Committee on Biological Standardizar tion, visited the new BCG laboratory at the request of WHO, and, afte-examining the installations and methods of culture, certified that the BCG vaccine produced at the laboratory conformed to a satisfactory standard.

FIG. 4. ALL-INDIA BCG CAMPAIGN - IV



Dr. W. Gellner, WHO expert, giving a BCG vaccination

The all-India BCG vaccination campaign was officially inaugurated in Madanapalle, South India, on 11 August 1948 by the Indian Minister of Health, Rajkumari Amrit Kaur.[1] Madanapalle, a town of about 16,000 inhabitants, thus became the scene of the first application of BCG in India within the framework of a general scheme for tuberculosis control, which includes prevention (BCG vaccination), diagnosis by mass radiography, and treatment of discovered cases. From 1 August to 20 October 1948, approximately 6,000 persons — mostly schoolchildren — were tuberculin-tested and the negative reactors (about 2,000) received BCG vaccination. Twelve doctors from different parts of the country had been trained in the theory and practice of BCG vaccination.

The work in Madanapalle which aims at the vaccination and mass radiography of the total population, was taken over by an Indian doctor when Dr. Gellner left, towards the end of October 1948, for Delhi to start a second demonstration centre there.

In Delhi, between the end of October and 18 December 1948, over 10,000 persons were tuberculin-tested and over 5,000 received BCG vaccination; while three doctors were trained in the work. The schoolchildren, who formed the greater part of the tested and vaccinated persons, were dealt with in their schools, while two clinics — one in Delhi and the other in New Delhi — were established for the pre-school children and young adults.

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[1] *Chron. World Hlth Org.* 1948, 2, 229

The co-operation which the WHO team gained both in official quarters and among the general population was very good and augurs well for the success of the more extended campaign which is to begin now with the aid of the United Nations International Children's Emergency Fund (UNICEF). This organization — in agreement with WHO — is sending six BCG teams, together with the necessary transport and equipment, to India, where they will be distributed among those capital cities which have already made some preparations for this work.

The function of the UNICEF teams will be to train Indian doctors in the requisite techniques. So long as the Indian health authorities can provide a sufficient number of doctors to work with the foreign teams and to carry on and enlarge their work after the latter have left, it is to be hoped that a systematic BCG campaign will, in the course of time, materially affect the incidence of tuberculosis in India.

EXAMINATION OF NEW HABIT-FORMING DRUGS

Many new synthetic anaesthetics and analgesic drugs, for use as substitutes for morphine, have been evolved in the past few years. The question now arises whether these drugs will prove to be habit-forming, and thus belong to the group of substances governed by the Conventions of 1925 and 1931, or whether, on the other hand, as substances "which are compounded, and which in practice preclude the recovery of the said drugs", they may be exempted from such control. The WHO Expert Committee on Habit-forming Drugs, at its first session in Geneva, 24-29 January,[1] was required to make recommendations on this question and to consider requests, received from governments during recent years, for the exemption from control of several types of drugs.

The Economic and Social Council of the United Nations is the authority responsible for notifying governments of the drugs which are placed under the international conventions governing narcotic drugs. The WHO expert

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[1] The following were present at the session:

Members:

Dr. J. Bouquet, ex-Inspecteur des Pharmacies, Tunis, Tunisia

Dr. N. B. Eddy, Principal Pharmacologist, Division of Physiology, National Institute of Health (US Public Health Service), Washington, D.C., USA *(Chairman)*

Dr. J. R. Nicholls, Deputy Government Chemist, Government Laboratory, London, United Kingdom

Dr. P. O. Wolff, Buenos Aires, Argentina

Secretary:

Dr. R. Gautier, Assistant Director-General, WHO

Observers:

M. L. F. Atzenwiler, Assistant Secretary of the Permanent Central Opium Board and Drugs Supervisory Body, United Nations, Geneva, Switzerland

Mr. A. E. Felkin, Secretary of the Permanent Central Opium Board and Drugs Supervisory Body, United Nations, Geneva, Switzerland

M. V. Pastuhov, Chief of Section, Division of Narcotics, Department of Social Affairs, United Nations, Lake Success, USA

Professor H. Fischer (Zurich) was present at the meetings on 25 and 26 January as a member of the Permanent Central Opium Board and Drugs Supervisory Body

Absent: Dr. H. P. Chu, Professor of Pharmacology, National College of Medicine, Shanghai, China

committee acts as an advisory body. If approved by the Executive Board of WHO, its recommendations for the addition of new drugs to the list of substances subject to control, or for their possible exemption, are transmitted to the Economic and Social Council. This procedure follows that established by the League of Nations, and was accepted by the signatories to the Protocol of 11 December 1946, by virtue of which the functions and powers of the Health Committee of the League of Nations and of the Office International d'Hygiène Publique were transferred to WHO.[2] On 19 November 1948 the United Nations adopted a new protocol, bringing under international control the synthetic products discovered during and since the war. Forty-six Members and six nations which are not members of the United Nations have already signed this protocol.

After considering the reports submitted by experts on each of the drugs under examination, the committee recommended that the following substances and groups of substances be brought under the existing international conventions on account of their habit-forming potentialities :

Valbine. This drug is subject to control on account of its content of dihydrooxycodeinone hydrochloride, of the possibility of recovering this alkaloid from the preparation, and of the presence of a barbiturate, which constitutes an additional habit-forming danger.

Metopon hydrochloride (methyldihydromorphinone hydrochloride). Chemically metopon hydrochloride is a morphine derivative; it is a more powerful analgesic than morphine and has approximately the same properties as regards tolerance and habit-forming.

Acetylcodone (acetyldihydrocodeine hydrochloride). Although no specific information was available on its habit-forming properties, the committee considered that this substance should be placed under control because it is convertible to dihydrocodeine, which in turn is convertible to dihydromorphine, a habit-forming drug. These considerations apply equally to other esters of dihydrocodeine and their salts, and to dihydrocodeine and its salts.

Dolantin (Demerol, Pethidine, Piridosal) (1-methyl-4-phenyl-piperidine-4-carboxylic acid ethyl ester). Because of the powerful habit-forming properties of this substance and its salts, the committee recommended that they should be governed by the provisions of the 1931 Conventions. The committee considered that the other substances of the Dolantin type (Bemidone, Keto-Bemidone, NU-1196, NU-1779), should be noted for appropriate action when the 1948 protocol comes into force.

Methadone (Amidone). The same provisions should apply to this drug and substances of similar chemical structure, on account of their habit-forming properties.

Precautionary measures with regard to synthetic substances. The committee was of the opinion that governments should watch with extreme

[2] *Chron. World Hlth Org.* 1947, 1, 167

care synthetic drugs of similar structure to those already examined, which may prove to have habit-forming properties. With reference to the experience already gained with substances of the Dolantin and Methadone groups, the committee recommended that any new convention should provide that substances of a particular chemical type, analogues of which have proved to be habit-forming, be placed under control until such time as they are shown not to be habit-forming.

Heroin (diacetylmorphine). The committee expressed its alarm that although the dangerous nature of heroin is now universally recognized, consumption of this drug has increased considerably in certain countries. Heroin is known to be more toxic than morphine, as its analgesic effect is from four to eight times more powerful. Its effect on the nervous system is much greater and 0.007 g. of heroin is sufficient to induce respiratory paralysis. Over the last fifty years, heroin has caused great havoc in the world. It is strange to note that in some countries heroin continues to be widely prescribed, while others have completely ceased to use it. The committee was of the opinion that further information was urgently needed on the reasons for the continued use of considerable quantities of heroin in some countries. Such data might be obtained through the World Medical Association. In addition, direct inquiries might be undertaken on the spot by sending experts to ascertain, from local physicians and sickness insurance services, the reasons why this drug is prescribed in preference to others.

Morphan. The committee was informed that German and American chemists have produced, by direct synthesis, a compound known as Morphan, in which the structure of the naturally occurring morphine alkaloid has been very nearly attained. This difficult synthesis is not at the moment a commercial possibility, but the synthesis of other compounds related to morphine is going forward and the progress of this research should be watched very carefully.

Finally, the committee was impressed by the variety of names given to the same drug by different manufacturers. Indeed, to avoid ambiguity, it had been necessary to give the full chemical formula of these substances. The committee drew attention to the advantages which would result if each substance could be given a recognized name by some authoritative, and preferably international, body.

VENEREAL-DISEASE CONTROL IN POLAND

The incidence of venereal diseases increased significantly in Poland as a result of the devastation of war and the occupation. The health of the population, particularly that of the younger generation, suffered, and venereal diseases contributed much to the decline in the birth-rate and to

the increase in the number of stillbirths. According to the Polish Ministry of Health, the total decrease in live births may be 40,000-50,000 per year and the case-fatality rate due to syphilis alone is estimated at about 11 %. On the basis of provisional statistics, it is believed that there were in Poland in 1948 approximately 150,000 cases of early syphilis. This represents a considerable human toll as well as an important economic loss to the nation. Indeed, it was shown by the American Social Hygiene Association that the efficiency of workers suffering from venereal disease and its consequences is 36 % below normal.

The realization of such conditions led the Polish Government to inaugurate what has been recognized as a most extensive and intensive national campaign against venereal diseases, planned and launched with the technical assistance of WHO and material assistance by the United Nations International Children's Emergency Fund (UNICEF).

Organization

The control programme is carried out in two stages : a temporary and a permanent part. The permanent programme will eventually include the treatment of all cases of venereal disease, the improvement of methods of treatment, the investigation of contacts, and the development of better methods of public education concerning various aspects of venereal diseases. The temporary programme includes the application of recent treatment methods, based on penicillin, to control syphilis and gonorrhoea within the shortest possible time.

The functional units of the entire programme are the consultation services for skin and venereal diseases in the health centres, which are located throughout the country. Besides these consultation services, there is in each main city a dermato-venereological service in the hospitals, working in close co-operation with the health centres. In view of the remote distances of some country settlements from health centres and the often limited transport facilities, each provincial health department has been provided with a special mobile anti-venereal disease team composed of one physician, one instructor in venereology, one female nurse and one driver. Every team has access to a fully equipped laboratory.

The task of such teams consists mainly of :

(*a*) visiting districts with high prevalence of venereal diseases;

(*b*) spreading information among the population on the dangers of venereal diseases, with a view to inducing the greatest possible number to report for examination and treatment;

(*c*) carrying out mass serological examinations;

(*d*) training of local medical and auxiliary personnel; and

(*e*) inspecting consultation and treatment centres.

Achievements in 1948

At the request of the Polish Government certain technical aspects of the programme were considered by the Expert Committee on Venereal Diseases in January 1948 and October 1948. The expert committee expressed its approval of the plan and observed that the principles embodied might well be of interest to other countries where conditions similar to those in Poland existed.

The planning and elaboration of the programme was completed by January 1948. By April 1948, much of the organizational work relating to treatment facilities had also been completed. More than 240 physicians, 300 nurses and 250 public-health nurses had been recruited by the end of April. Postgraduate courses were then organized, at which attendance was obligatory for venereal-disease control officers. The courses were also open to all other physicians free of charge. By 1 July 1948, 16 such courses had been organized with an attendance of more than 480 physicians. The courses were conducted in the university clinics.

The provision of equipment and supplies has proved difficult. Although some dark-field microscopes were available in health centres, many specimens for dark-field examination had to be sent to the urban centres of the districts concerned. Between January and October 1948, 42 dark-field microscopes were provided. An effort was made to obtain personnel and equipment for the follow-up of the patients by means of quantitative serological techniques. Trained personnel for this purpose is now available, but limited availability of equipment in laboratories restricts its general use.

In March 1948, the establishment of mobile squads was initiated. These squads were originally intended to reach villages located at great distances from the health centres and to remain in the area until case-finding and treatment had been completed. The initial experience indicated that the mobile squads might be employed to greater advantage for case-finding purposes only with the use of sero-diagnostic mass-screening procedures. The squads were also important in health education of the public. The present programme of these squads includes examination of the entire population living in the area and the direction of positive cases to the nearest health centre. Units are usually sent to areas where a high rate of venereal disease is suspected on the basis of information received from medical officers in the districts or the towns. The squads distribute literature and anti-venereal-disease propaganda, and show educational films; while the medical officer in charge lectures to the public.

While the organization of treatment facilities was still proceeding, supplies and equipment were being made available to the health centres, and to the university clinics. Some health centres started operating in January and February 1948, but action on a large scale was not started until April, when further supplies became available.

The educational campaign was also started in April 1948. All the principal newspapers published daily, or every other day, an article on the subject; broadcasting stations gave instructive talks; 1,200,000 booklets were distributed and 200,000 posters displayed. The public was informed of the nature and dangers of venereal diseases, the role of alcoholism in facilitating their spread, the epidemiological importance of getting infectious cases under treatment, the necessity for early treatment, the availability of short and adequate treatment based on penicillin, the assurance of discretion, and the availability of treatment free of charge.

The effect of this campaign was that by early July 1948, there was not sufficient penicillin to meet the demands of patients reporting for treatment; a crisis which was relieved by rapid delivery by aeroplane of the necessary amounts of penicillin in oil and beeswax.

The Polish campaign concentrates firstly on the communicable phases of the disease, early syphilis being treated with penicillin for 10 days. This approach appealed to the public and to the medical and venereal-disease officers. It was subsequently found practicable to extend the period of administration of penicillin to two weeks for certain cases of syphilis. Supplementary arseno-bismuth therapy is given for a period of 30 days. Although so far it has not been proved that such supplementary therapy improves results in man, a compromise in this respect was necessary in view of the opinions of many practitioners and some university professors, whose experience in syphilis therapy in the past had been more from the clinical than from the public-health point of view. These opinions sometimes influenced the patients to insist on additional treatment.

By the end of August 1948, about 43,000 cases of syphilis and about 27,000 cases of gonorrhoea had come under treatment.

It was found that the most practicable mass serological test for syphilis for use in Poland was the Chediak method. Although not perfect, this method offers many advantages from the point of view of ease of obtaining specimens and of postal dispatch to the laboratories. By the end of August 1948, about 540,000 persons had been examined. Positive tests were further checked with the Kahn flocculation and Wassermann complement-fixation reactions. A preliminary estimate of the prevalence of syphilis indicates that it ranges from 1 % to 3 %. The other case-finding mechanism employed was tracing of infectious contacts. Information on approximately 18,000 sexual contacts was obtained from the first 20,000 cases of venereal diseases treated, and of these 10,000 were found to be positive.

Further reports on the progress of the Polish anti-venereal-disease campaign will be found in forthcoming numbers of the *Chronicle*, and a detailed account will appear in the *Bulletin of the World Health Organization.*

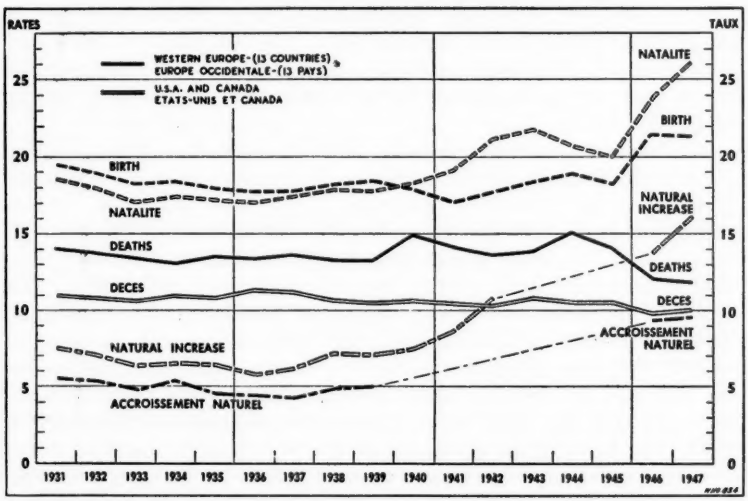
PRESENT STATE OF POPULATION GROWTH

In a recent article in the *Epidemiological and Vital Statistics Report*,[1] Mr. K. Stowman has reviewed the state of the world's population. On the basis of data now available, there can be little doubt that the population of the world has increased more rapidly in the twentieth than in the nineteenth century, and the rate of growth is still increasing. In the middle of 1946 the world population was estimated at 2,294,432,000 by the Statistical Office of the United Nations; in 1907 it was estimated at 1,606,000,000, and in 1882 at 1,434,000,000.

North America and Europe

Fig. 5 shows the movement of birth- and death-rates in two economically important areas of the world — namely (*a*) North America, and (*b*) western Europe — from 1931 to 1947. The registration of births and deaths is to all practical purposes complete in the 15 countries in these two areas, and it has at no time been interrupted by the war.

FIG. 5 BIRTH, DEATH AND NATURAL INCREASE RATES (PER 1,000 POPULATION) IN WESTERN EUROPE AND IN NORTH AMERICA, 1931-1947



* Austria, Belgium, Denmark, Finland, France, Ireland, Italy, the Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom

For the war years, mortality statistics do not include military deaths occurring abroad. The rates of natural increase have therefore not been computed for years where such deaths constitute a significant factor.

[1] *Epidem. vital Stat. Rep.* 1948, **1**, 332

In spite of war losses, the population of the 13 European countries considered increased by about 7,087,000 from 1939 to 1947, as against an increase of 6,678,000 during the previous eight years. The population of the United States and Canada increased by 7,700,000 during the first eight years, and by 14,437,000 during the last eight years until the middle of 1947.

In southern Europe and in France, death-rates have fallen rapidly, so that they no longer differ materially from those recorded in countries where reduction of the general mortality began at an earlier date. At the same time, there has been no postwar increase of the birth-rate in southern Europe comparable to that noted farther north.

Rate of Growth of Adult Population

It is important to watch the rate of growth of the adult population between the ages of 20 and 60, which may be considered the economically productive ages. The number of persons in this age-group is determined by : (1) the number of births twenty years earlier; (2) the infant and child mortality during the last twenty years; (3) adult mortality; and (4) the number of persons reaching the age of 60. In most countries for which reliable information is available, the birth-rate was declining rapidly twenty years ago. This was counterbalanced, to a limited extent only, by the decreasing infant and child mortality. The reduction of adult mortality, especially by prevention of tuberculosis, has increased manpower, but has in turn been counteracted by the greater numbers reaching the age of 60.

The trend of potential producers differs radically from that of the consumers, who form the total population. The author gives, as an example, a statistical table showing the increase, for each five years, in total population and in the age-group 20-59 in Denmark from 1925 to 1945.

The total population increased by 3.4 % from 1925 to 1930, 4.4 % from 1930 to 1935, 3.7 % from 1935 to 1940, and 5.2 % from 1940 to 1945. The figures for the population between the ages of 20 and 59, for the corresponding periods, were 7.7 %, 8.7 %, 5.6 % and 4.6 %.

The 1950 total population cannot be forecast with exactitude because the birth-rate for 1948-50 cannot be predicted with any certainty, but it seems probable that there will be an increase of about 6 % from 1945 to 1950. On the other hand, those who will be between the ages of 20 and 59 in 1950 were born long ago, and their death-rates are not likely to undergo great changes. Short of unpredictable catastrophes, the 1950 estimate should therefore be correct to the first decimal. The 1950-55 rate of increase of the adult population should be slightly lower than that for 1945-50, after which there may be a rise, but it seems unwise to carry estimates farther into the future.

At present, the ratio between the rate of increase of consumers and that of potential producers can be obtained only in a limited number of countries, because detailed postwar censuses will be necessary before valid population data by age can be available. It is likely that the results shown above for Denmark will apply in a general way to many other countries, and that it will be found that a reversion of trends has taken place during the past twenty years. While about 1930 potential producers increased at a much higher rate than consumers, the opposite is now the case as a consequence of the rising birth-rate and the increasing proportion of old people.

The Future Outlook

Comparison of the actual population of western Europe with projections based on prewar trends of fertility and mortality, show that the rate of increase in these countries has been much higher than expected, war losses notwithstanding. Reliable population estimates for the middle of 1947 give 130,396,000 in an area composed of Belgium, Denmark, France, Ireland, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom. The 1950 population projection for this area was 126,440,000 or about four million less than the actual population in 1947 and the population continues to increase in every one of those countries.

What the trend of the birth-rate will be for the next few years cannot be predicted. However, apart from catastrophes arising out of non-medical causes, it is safe to predict a further substantial fall in the death-rate throughout the world, due to increased control of tuberculosis, malaria, venereal diseases, water- and food-borne diseases and of maternal and child health, as well as to better care of the sick and the sound.

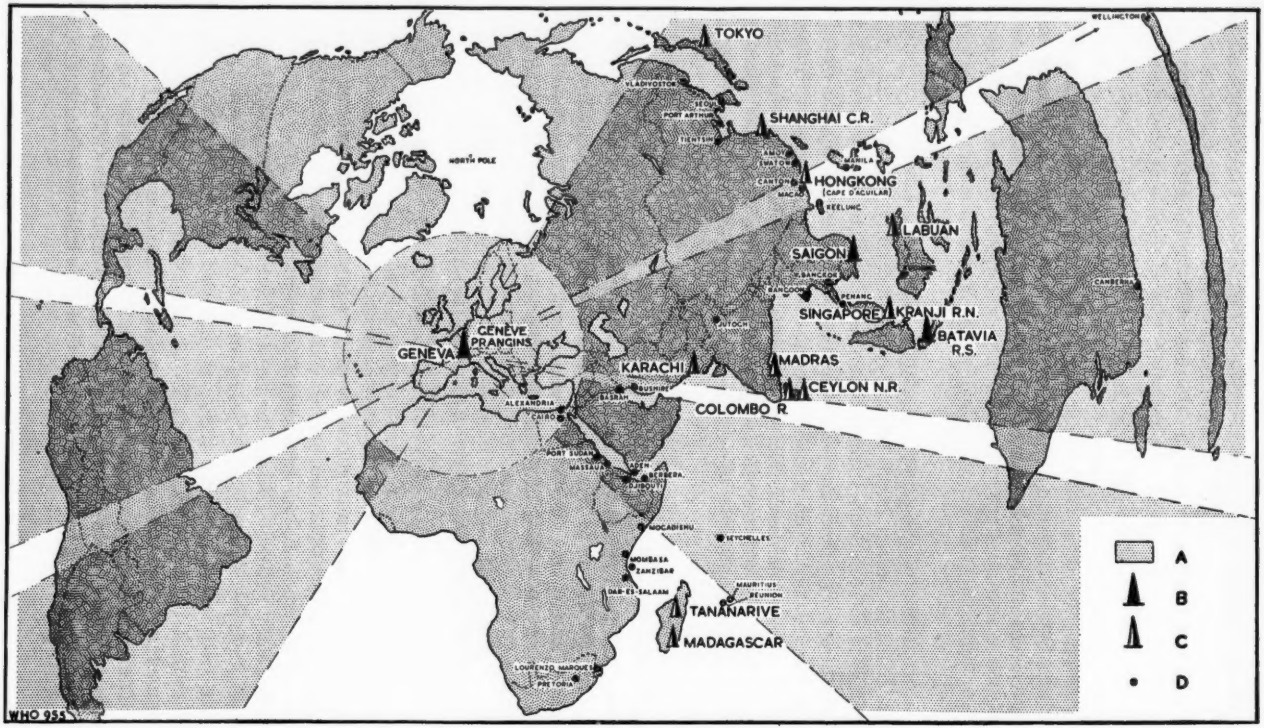
EPIDEMIOLOGICAL RADIO-BROADCASTS FROM GENEVA

A new radio service for the benefit of health administrations, port and maritime authorities throughout the world was started on 27 January 1949, when WHO broadcast the first of a series of epidemiological bulletins through the Radio-Suisse stations at Genève-Prangins.

The daily bulletins contain the latest official information on the occurrence of plague, cholera, yellow fever, smallpox and typhus in sea- and airports, and on quarantine measures imposed or withdrawn. Official information on epidemic outbreaks of any other diseases will also be included in the bulletins, if of sufficient international interest.

The bulletins are transmitted in clear (non-coded) Morse regularly twice a day over one 50-KW, one 6-KW and eight 20-KW stations of Radio-Suisse. The broadcasts at 15.00 GMT are beamed to North, Central

FIG. 6. EPIDEMIOLOGICAL RADIO-BROADCASTS FROM GENEVA - I



A = Areas reached by Genève-Prangins stations
B = Stations transmitting daily
C = Stations transmitting once or twice a week
D = Receiving stations

Wireless stations transmitting the epidemiological bulletins of WHO headquarters in Geneva and of the Singapore Epidemiological Intelligence Station

and South America and to West Africa; the broadcasts at 09.00 GMT cover Europe, the Mediterranean area, South-East Asia, Africa, Australia, New Zealand and the North-Western Pacific area. Details of the times of the broadcasts with the wavelength, frequency and signal call of the stations are shown in table I.

Any changes in the list of stations transmitting the bulletins will be announced in the *Weekly Epidemiological Record.*

TABLE I

Signal call of the station	Time (GMT)	Wave-length (metres)	Frequency (kilocycles per second)	Area covered by station
H B G*	9.00	4,800	62.5	Europe
H B Q	9.00	44.97	6,672	Europe
H B O	9.00	26.31	11,402	Mediterranean area, Africa
H B F	9.00	16.26	18,450	Eastern Mediterranean, South-East Asia, Australia, New Zealand
H B Z	9.00	19.12	15,692	
H B H	9.00	16.23	18,480	North-Western Pacific Area
H B Z 2	9.00	20.64	14,538	
H B V	15.00	15.83	18,950	South America, West Africa
H B V 2	15.00	15.81	18,970	Central America
H B Z 3	15.00	20.74	14,462	North America

* Transmitted in French as well as in English

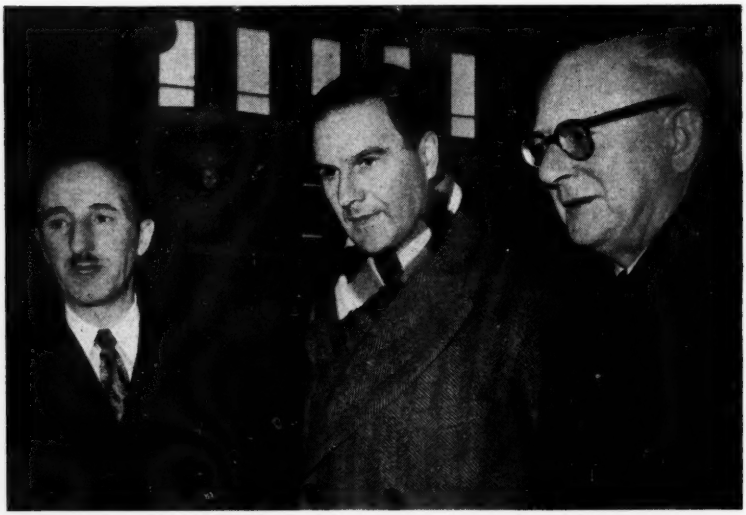
The introduction of this worldwide service on an experimental basis was approved by the WHO Expert Committee on International Epidemiology and Quarantine at its first session in November 1948. The service is an extension of a similar series of broadcasts transmitted to the Pacific and Indian Ocean area by the WHO Epidemiological Intelligence Station at Singapore. This service, which has proved its value, started under the Health Organization of the League of Nations, but was interrupted during the war. In 1946 epidemiological broadcasts were resumed to an area covered now by a network of thirteen stations, which relay bulletins originating at Singapore.

In view of the importance of the new worldwide service, advance notification was sent to health administrations of the introduction of the daily epidemiological bulletins, suggesting that arrangements should be made for the regular reception of the broadcasts. Administrations were asked to report on the quality of the reception of the transmissions and to make suggestions on their contents to the Division of Epidemiology, WHO, at Geneva. It is hoped that the broadcast bulletins will eventually replace the routine telegraphic notifications sent to health administrations under the existing international sanitary conventions. Once the regular satis-

Wireless stations transmitting the epidemiological bulletins of WHO headquarters in Geneva and of the Singapore Epidemiological Intelligence Station
A = Areas reached by Genève-Prangins stations
B = Stations transmitting daily
C = Stations transmitting once or twice a week
D = Receiving stations

factory reception of the radio bulletins is assured in any country, the telegraphic notifications to that country will be discontinued.

FIG. 7. EPIDEMIOLOGICAL RADIO-BROADCASTS FROM GENEVA - II



Left : M. Calame, Radio-Suisse; centre : Dr. Y. Biraud, Director, Division of Epidemiology, WHO; right : Dr. G. Stuart, Chief, Sanitary Conventions and Quarantine Section, WHO, at inauguration of epidemiological radio-broadcasts from Genève-Prangins

The advantages of the new service are obvious. The epidemiological radio bulletins will enable governments to apply preventive measures as soon as the appearance or spread of an epidemic is reported. Similarly the rapid notification of a return to normal conditions will permit the early relaxation of emergency measures.

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows have been of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports will therefore be published from time to time, but it must be emphasized that the opinions expressed are those of the Fellows.

Cancer Treatment in the United States

Dr. Miloš Fořt, Head of the Prague Institute of Radiotherapy, has completed a four-months tour of investigation in the United States, visiting the most modern clinics specializing in cancer treatment. The following are some of the facts which have been taken from his report on cancer research in the United States.

The present tendency in the United States is to centralize cancer treatment in institutions built and equipped for this purpose. The Memorial Hospital in New York can be regarded as a model centre. Provided with the latest equipment, it will soon have a capacity of 600 beds. Treatment by the most modern methods for the various types of tumours is given in specialized departments which, however, have common access to hospitalization, research, and treatment services. The director is Dr. C. P. Rhoads, who has specialized in research. The head of clinical services is Dr. Allen O. Whipple.

Surgical treatment of gynaecological tumours has been developed at the expense of radiotherapy. Much progress has been made in the surgical extirpation of malignant melanomas, and, for tumours of the hip or of the iliac bones, exarticulation and iliac section are practised successfully. In 1940, a special department was created for thoracic tumour surgery, with a laboratory perfectly equipped for the study of delicate thoracic operations on animals. The problems of resection and suture of the oesophagus, and of the bronchial stump after pneumonectomy, are particularly studied.

The preparation of all radiophores is done by a physics department where unique technical installations reduce to a minimum the risks inherent in the handling of radium.

The Strang Cancer Prevention Clinic, opened in 1940 and annexed to the Memorial Hospital, provides for all those requiring a complete examination. A widespread campaign in favour of preventive examinations is carried out by broadcasts and lectures. All persons over forty have an x-ray examination of the chest and of the gastro-intestinal tract, besides the clinical examination. It is interesting to note that these examinations have resulted in the discovery of comparatively few cases of cancer.

Dr. Jacox, in his department at the Presbyterian Hospital, is one of the few doctors who perform needle punctures in tumours of the cervix and parametria. Although tumours of the rectum are, as a rule, operated on in this institution, good results have been obtained with radium treatment. Promising results are also expected with long half-life isotopes, in particular cobalt 60, the half-life period of which is 5.3 years.

At the Philadelphia University, x-ray irradiation is practised, after plastic operations on the cornea, thus avoiding vascularization and resulting opacities.

At the institute of Dr. Stone in San Francisco, radio-active phosphorus is used in the differential diagnosis between cancer of the breast and non-malignant affections.

This method is exact in 80 % of the cases. Iodine 131, which is useful for certain kinds of dysthyreosis, has no practical value for the treatment of malignant tumours of the thyroid gland, as its fixation in the tissues does not allow the application of sufficiently large doses without damaging other organs by gamma rays. At this institute, and in co-operation with the Radiation Laboratory at Berkeley, the first experiments were made with irradiation by neutrons in cancer patients. Because of variable results, it is doubted whether this irradiation is sufficiently selective.

In the United States, radio-active isotopes are now used in all physiological and pathological research work. Betatrons, of which there are now five in the United States, with seven new apparatuses under construction or planned, are not used for therapeutic purposes, as the noise caused by magnetic oscillations makes treatment unbearable for patients.

In certain institutions, special instruments make it possible to check with precision the amount of irradiation to which personnel are submitted. Working-hours and the transfer of staff, as well as holidays, are established according to automatically tabulated results.

Notes and News

Courses in Malariology

To operate a malaria-control programme, such as has been recommended by the Expert Committee on Malaria, countries taking part in the campaign need a specialized staff familiar with modern methods and having a thorough knowledge of scientific and technical matters. In the report on its second session, the expert committee thought it desirable that the training of directive professional staff should be carried out in special schools of malariology.[1]

Among the malaria institutes already in existence, where special courses might be organized, are the Istituto di Malariologia Ettore Marchiafava and the Istituto Superiore di Sanità, in Rome.

Dr. E. J. Pampana of the WHO Secretariat has recently visited Rome to arrange for collaboration between these two institutes in the organization of special courses in malariology. As a result of the discussions, a plan was drawn up for two different courses, one in each of these institutes, covering all aspects of malaria control.

The Istituto di Malariologia Ettore Marchiafava would organize a course for foreign medical men, from 22 May to 18 June, with the following programme : haematology; morphology and biology of malaria parasites; pathology of malaria and blackwater fever; immunology; clinical aspects of malaria; antimalarial drugs; therapeutics of malaria and blackwater fever; epidemiology; history of malaria. This course would be supplemented by practical laboratory and hospital work.

At the Istituto Superiore di Sanità, another course, lasting two months, would be given on " Insect control as a public-health measure ". The programme of this course would include : medical entomology; insect-borne protozoa; insect-borne helminths; chemistry and application of insecticides; health statistics; sanitary engineering; organization of insect control by means of insecticides.

Ten days' practical work would be carried out in the laboratory and in the field in Latina and Sardinia.

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[1] *Off. Rec. World Hlth Org.* **11**, 46; *Bull. World Hlth Org.* 1948, **1**, 219

This latter course would be open to technical personnel employed in the control of diseases transmitted by flies, sandflies and lice.

These courses would be given in French, and would take place only if the numbers applying were sufficient.

Special Air Service for Antituberculosis Vaccines

Teams working in Europe under the international antituberculosis campaign carried out by several Scandinavian organizations with the technical assistance of WHO and with the material assistance of the United Nations International Children's Emergency Fund [2] (UNICEF) now receive BCG vaccines and other medical supplies by special aeroplane. The new service started on 11 January 1949 when a C.47 aircraft carrying 2,500 kg. of BCG, tuberculin and other medical supplies made its first flight from Copenhagen to Belgrade, where Scandinavian and Yugoslav vaccination teams are conducting an intensive campaign.

The aircraft has been assigned free of charge by the American military authorities in Germany under a joint arrangement with UNICEF, WHO, and the Scandinavian authorities concerned. Formerly a troop carrier, it has been completely overhauled and fitted to fly in all weathers. The aircraft is based on Copenhagen and will carry vaccines to Czechoslovakia, Greece, Hungary, Poland and other countries in which the antituberculosis campaign is being conducted. It is thus hoped to avoid the delays (due to weather conditions, changed schedules and other factors) which occurred when the vaccines were carried by commercial air-lines. They should now be delivered at a rate which will allow the teams to work without interruption.

The ultimate object of the international antituberculosis campaign is to test approximately one hundred million children in all parts of the world and to inoculate with BCG vaccine those showing a negative reaction to the tuberculin test.

Co-ordination of Medical Congresses

A conference will be held in Brussels from 4 to 9 April 1949 for the purpose of establishing a permanent bureau for the co-ordination of medical congresses. Arrangements for this conference were made on 28 and 29 January in Paris at a meeting of representatives of the larger medical associations and of UNESCO and WHO, who will sponsor the development of this new work of international collaboration.

It will be remembered that at a previous meeting,[3] plans were discussed for the creation of a permanent bureau to collect information on medical organizations and on congresses organized by them, to co-ordinate such congresses, to give material assistance for their technical services and financial support for the publication and circulation of their proceedings. The desirability was also expressed of making grants as far as possible to congress members who particularly merit them.

This initiative has been most favourably received by medical organizations throughout the world, and more than 40 have announced their intention of taking part in the Brussels conference.

The present executive committee will propose to the meeting the creation of a permanent council for the co-ordination of international congresses on medical sciences consisting of representatives of all member associations. This permanent council would meet every three years, and in the intervals the work would be carried on by an executive committee of seven members. The administrative body of the permanent council would consist of a small secretariat headed by an executive secretary. UNESCO

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[2] *Chron. World Hlth Org.* 1948, **2**, 59
[3] *Chron. World Hlth Org.* 1948, 2, 63

and WHO intend to give their support to this new organization which gives promise of valuable service.

During the recent meeting in Paris, various proposals were made which will be submitted to the conference. Among them may be mentioned a suggestion made by the WHO representative that, in addition to normal congress debates, lectures and demonstration courses on certain selected subjects be organized, before or after congresses, so that the specialists may benefit from the presence of experts from all over the world.

Uniform Designations in National Health-Departments

A letter has been sent to governments by WHO asking them to state their views on the desirability of uniform designations for the chief executive officers of all national departments of health. The letter was sent in compliance with a decision of the Executive Board at its second session.

The Board suggested that the titles used by WHO might be adopted — namely, " Director-General of Health ", " Deputy Directors-General of Health ", and " Directors ".

The Board further proposed that the chief executive officer should be responsible for the curative and preventive aspects of medicine, whenever they are both the responsibility of a national government.

Fellowships in Venereal Diseases

The State Serum Institute, Copenhagen, is to be available to WHO Fellows for training in the laboratory aspects of venereal diseases. During a recent visit to Copenhagen of Dr. T. Guthe, Secretary of the WHO Expert Committee on Venereal Infections, Dr. J. Örskov, Director of the Institute, agreed to accept Fellows for short periods of training in serology. It is expected that Fellows will work in the Wassermann Division under Dr. P. Krag. The period of training may vary from 3 to 4 weeks in some cases, to as much as three months or even more. Not more than two Fellows will work at the Institute at the same time.

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